



A Review of Farm Accident Data Sources and Research: Background¹

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According to the Bureau of Labor Statistics (BLS), the occupational injury incidence rate per 100 full-time workers on farms employing 11 or more workers in production agriculture was 12.3 in 1990 (See Figure 1). This compared with rates of 14.1 in construction and 11.9 in manufacturing industries (U.S. Department of Labor, 1992). In addition, the BLS data report occupational fatality rates for enterprises employing 11 or more workers. Fatalities for the broad category of firms called agriculture, forestry, and fishing were 23.8 per 100,000 full-time employees in 1990 compared with 20.6 in construction and 2.8 in manufacturing (U.S. Department of Labor, 1992). Since most farms either hire fewer than 11 workers or employ only family members, the BLS data probably undercount the actual injury and fatality rates in agriculture.¹

Farming, by its very nature, creates an environment conducive to accidents and illnesses. The home and worksite are the same location for most farm operators. Farmers do not leave their work at the office, and they and their family members experience the potential for greater exposure to hazards associated with machinery, tools, and chemicals. Farmers and farmworkers receive little formal safety training; most training is learned on the job (largely by trial and error and through word of mouth). Farmers often work alone and far from assistance should an accident occur. Emergency services in many rural areas are distant from the farm and often not equipped to handle the more severe farm injuries (Congress of the United States, 1990).

Farming is usually not performed in packages of 40-hour weeks but rather in an erratic tempo dictated by weather, season, and climate. Farmers and their laborers frequently work in such environmental conditions as cold, heat, rain, snow, wind, and darkness, which increase the risk of accidents. In addition to such conditions, farmers and farmworkers may face the psychological pressures of uncertain finances, deadlines, changeable weather, and boredom from long hours of repetitive tasks (Hoskin and others, 1988c). The danger is compounded by working with machinery unforgiving to mistakes, chemicals of which the effects are not fully known, and animals that may inadvertently or otherwise cause physical injury. Work in hazardous areas, with confined animals or in grain bins and silos with fumes, molds, and dusts, may also cause chronic illnesses (Dosman and others, 1988; Hurst, 1992; Knudson, 1984; and Zwemer and others, 1992). Finally, many farmers and farm laborers may forgo medical attention or may wait until the accident or illness nearly incapacitates them because of scarce or inconvenient medical services, high costs of medical care (many farm families and hired workers do not have adequate health insurance), fear of loss of job, or other reasons (Congress of the United States, 1990).

MAJOR OCCUPATIONAL INJURIES AND ILLNESSES

The National Coalition for Agricultural Safety and Health has identified the major occupational injuries and diseases of farmers and farmworkers as traumatic injury and

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death, acute and chronic disease, respiratory disease, cancer, pesticide toxicity, dermatitis, musculoskeletal syndromes, noise-induced hearing loss, and mental disease (National Coalition for Agricultural Safety and Health, 1988). These are reviewed in more depth later in this report.

EFFORTS TO IMPROVE FARM SAFETY

Various industry, professional, medical, and research groups are involved in efforts to improve farm safety. Research and medical institutions, including the University of Iowa's Institute of Agricultural Medicine, the National Farm Medicine Center of the Marshfield Medical Research Foundation (Wisconsin), Bassett Hospital (New York), Clemson University, the Medical University of South Carolina, the University of California at Davis, and Colorado State University are collecting data to document the state of agricultural health.² In addition to these U.S. institutions, the Centre for Agricultural Medicine at the University of Saskatchewan is also active in farm health and safety research.

Other groups, including equipment manufacturers, the American Society of Agricultural Engineers, State farm safety specialists, the National Institute for Farm Safety, and the American Conference for Governmental Industrial Hygienists, call attention to the dangers of farming and educate the public on the need for funding research and education to improve the farm safety record (National Coalition for Agricultural Safety and Health, 1988).

The Federal Government also has been involved in farm safety efforts. The Extension Service (ES) of the U.S. Department of Agriculture, the U.S. Department of Labor (DOL), the Environmental Protection Agency (EPA), the National Institute of Occupational Safety and Health (NIOSH), and the Office of Rural Health Policy (ORHP) of the U.S. Department of Health and Human Services are active in improving farm safety and health. ES supports a variety of health education programs, provides funds to support farm safety education and awareness in all States and Puerto Rico, and provides training and educational programs to pesticide applicators in all 50 States and 4 territories. DOL administers the Occupational Safety and Health Act that provides some workplace protections for farmworkers. EPA, which administers the Federal Insecticide, Fungicide, and Rodenticide Act, recently issued standards that protect farmworkers from pesticide poisoning. NIOSH financially supports surveys of research techniques and conducts as well as supports farm safety research and education. ORHP operates a rural health information

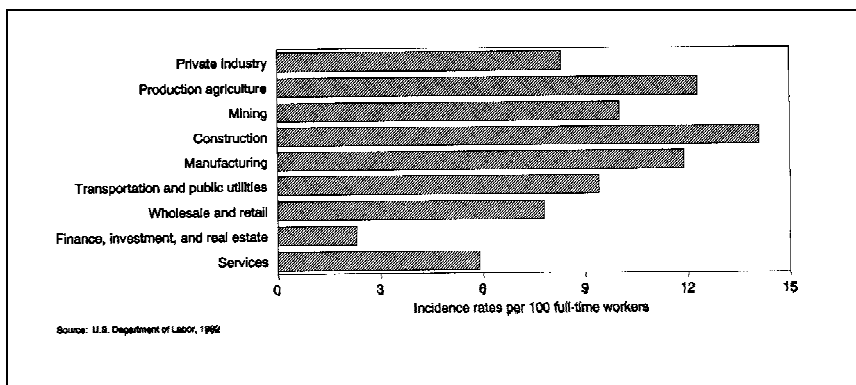


Figure 1. Occupational injury incidence rates by industry division, private sector, 1990.

service, and it also supports, through grants, the funding of rural health research centers, the establishment and ongoing operation of State offices of rural health, and a rural health outreach program.

The Federal Government has undertaken other initiatives as well. In 1991, the Surgeon General of the U.S. Public Health Service convened a Conference on Agricultural Safety and Health called "Farmsafe 2000: A National Coalition for Local Action" (U.S. Department of Health and Human Services, 1991b). This conference was designed to raise consciousness, build coalitions, disseminate information, and encourage action to prevent injury and disease in agriculture. Congress, in the Food, Agriculture, Conservation, and Trade Act of 1990, authorized the Secretary of Agriculture to make grants to States to establish programs to provide individual and family health education and information and training concerning safety in the workplace to farmworkers, timber harvesters, and farm families³. This same act also directed the Secretary of Commerce to include questions relating to agricultural accidents and farm safety in the *1992 Census of Agriculture*.

1. The U.S. Census of Agriculture, the most recent data available on the number of employees per farm, indicates that two thirds of almost 2 million farms used only family or unpaid labor or hired fewer than 10 workers during the year.
2. These institutions are active in providing health and safety education and service to the farming sector, as well as conducting research.
3. Funds for those grants have not been appropriated by Congress, but the mechanism is in place to improve farm safety efforts.